

Welcome to the Biweekly Restoration Information Update Page. This web site

- Provides current information on wetland and river corridor restoration projects
- Recognizes outstanding restoration projects
- Provides a forum for information sharing

We welcome the submission of articles and announcements related to your restoration project. Just send your write-up to EPA's contractor at restorationupdate@tetrattech-ffx.com or mail it to Kathryn Phillips, Biweekly Restoration Update Coordinator, Tetra Tech, Inc., 10306 Eaton Place, Suite 340, Fairfax, VA 22030. We will carefully consider your submission for inclusion in a future update. If your submission is selected, please note that it might be edited for length or style before being posted. Because this web site is meant to be a public forum on restoration information, we cannot post any information that is copyrighted or information that serves or has the appearance to serve as advocating or lobbying for any political, business, or commercial purposes.

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- [Community-Based Restoration Partnerships](#) - This section highlights innovative community-based partnerships working to restore wetlands and river corridors.
- [Funding for Restoration Projects](#) - Here you'll find information pertaining to grants and other funding sources available to local watershed groups and other grassroots community organizations to implement restoration projects.
- [News and Announcements](#) - This section includes up-to-date information on regulatory issues affecting restoration, conference and workshop announcements, and other newsworthy tidbits.
- [Restoration-Related Web Sites](#) - Check out other groups on the Web that are helping in the effort to restore wetlands and river corridors.
- [Information Resources](#) - Books, journals, fact sheets, videos, and other information resources to aid you in your restoration project are provided here.
- [Ask a Restoration Question](#) - Post your restoration related question. Answers will be provided by the EPA and Bi-Weekly readers.

Feature Article

Pond Apple Habitat Wetlands Restored

Over the past 40 years, the once-natural open water and wetlands system in Palm Beach County, Florida has been dramatically changed by dredging, filling, and channelization activities. Increased urban and residential development has almost eliminated the natural wetlands and filter marshes once present in this ecosystem. Today the remaining natural freshwater lake system, interconnected with drainage canals, faces water quality degradation from increasing nutrient and pollutant inflow.

Recognizing the recreational and storm water processing importance of the lake, Palm Beach County developed the State of the Lakes Plan. The plan evaluated the current condition of the lake and recommended solutions. It established the re-creation of wetlands to filter sediments, take up nutrients, and provide shoreline stabilization as a high priority. A site along both sides of a canal leading into Lake Osborne was chosen as a restoration site. This location contains a stand

of mature pond apple trees and represents one of the few remaining pond apple stands in the county.

The elimination of exotic vegetation surrounding the pond apple trees was the first step in the 3-month restoration process. Heavy equipment was used to remove several species of invasive trees. Trees extensively intertwined with the pond apple trees were cut to ground level and treated with herbicide, taking care not to disturb the pond apple trees. The exotic trees were then chipped and disposed of off-site or used as mulch.

The second step in the process was to scrape back upland areas, creating littoral shelves for wetland vegetation. The creation of vegetated littoral wetlands essentially doubled the open water zone of the lake and created new areas of shallow-water habitat. In all, restoration workers removed approximately 10,000 cubic yards of soil and muck from the wetlands and used it elsewhere in the park system for improvement projects.

After the littoral shelves were created, restoration workers planted herbaceous plants and trees. Two stands of trees were planted on the bank opposite the pond apples to increase the hardwood wetland area, and the littoral shelves were planted with a variety of native herbaceous plants. Restoration workers planted about 240 trees and 16,000 herbaceous plants in the restoration area. The planting plan accommodated open water views for the public, and flowering species were used whenever possible.

Upon completion of the restoration, a variety of new wildlife moved into the area. In addition to the two pairs of tricolor herons that had previously nested in the pond apple trees, the area now supports a limpkin pair, an endangered wood stork, herons, ibis, and egrets. Park workers also spotted a pair of ospreys resting and feeding on a nesting platform. Birds are not the only wildlife enjoying the new habitat area: several American alligators, a pair of river otters, and a large green iguana moved into the wetland after the restoration was complete. The environmental science group from Palm Beach Community College, a partner in the restoration effort, also uses the area to release rehabilitated wildlife, including turtles and several species of birds.

The restoration project received accolades throughout Florida, including first place awards from the Florida Native Plant Society for ecosystem restoration and the Florida Association of Environmental Professionals for habitat restoration. Presentations about the restoration effort were given at the North American Lake Management Society Conference in Miami, Florida. For more information, contact the Department of Environmental Resources Management, 3323 Belvedere Rd., Bldg 502, West Palm Beach, FL 33406. Phone: 561-233-2443. E-mail:

jphipps@co.palm-beach.fl.us.

If you'd like your project to appear as our next Featured Article, e-mail a short description to restorationupdate@tetrattech-ffx.com.

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Five-Star Restoration Projects Update

The goal of EPA's Five-Star Restoration Program is to bring together citizen groups, corporations, youth conservation corps, students, landowners, and government agencies to undertake projects that restore streambanks and wetlands. The program provides challenge grants, technical support, and peer information exchange to enable community-based restoration projects. A few five-star restoration projects will be revisited to see if the modest amount of funding, between \$5,000 and \$20,000, has helped the local restoration partners achieve their goals.

Project Name: Engstrom Lake Wetland Reclamation

Five Star Grant: \$10,000 (FY 2000)

Grant to: CSR Rinker

Location: Clermont, Florida

Project Description:

CSR Rinker, in partnership with Florida Audubon, Valencia Community College, and others, will conduct wetland reclamation activities along Engstrom Lake in the Green Swamp, an area of Critical State Concern. In an effort to address the deterioration of significant wildlife habitat in the

area caused by the operation of a sand mine, the project will involve kindergarten through college-age students working with local Audubon Society members and Rinker employees to restore, preserve, and manage the lake and its adjacent wetlands.

Project Update:

The partnership decided to make this a perpetual project and open the area to students as an outdoor classroom. With that said, the project team decided to direct their focus on making the area conducive to learning. The team has constructed a 40-foot floating dock and attached it to an additional 40-foot dock that is on land. The docks will assist the Valencia students in taking water samples and make access to the middle of the lake much easier. A temporary classroom with restroom and kitchen accommodations will be moved in, and plans are being made to construct a lodge at the site to allow overnight field trips to enhance the outdoor educational experience. To increase the aquatic wildlife, two solar-powered fish feeders were installed. An initial fish shock indicated that the population is already beginning to thrive and the potential for abundant life is immense. Future plans include creating a scrub habitat; focus on that phase of the project will begin in coming meetings.

The project team continues to meet monthly and generate new and exciting plans for the site. A chemistry professor from Valencia is now on board and will monitor all the water samples and document them. The Biology II professor has designed her syllabus around this project for many classes to come. The team looks forward to further developing their partnership with Audubon of Florida and beginning work on the scrub habitat to complement the current wetland habitat.

The team has asked to be certified as a "Corporate Land for Learning" by the Wildlife Habitat Council (WHC). A WHC representative will visit the site in August to complete a site survey and analysis. A sign was constructed and installed at the front of the sand mine with the Five Star logo and the logos of all the partners. The team is in the process of adding a section to CSR Rinker's web site that is dedicated solely to this project.

Project Name: Community-Based Coastal Bays Restoration

Five Star Grant: \$10,000 (FY 2000)

Grant to: Assateague Coastal Trust

Location: Ocean City, Maryland

Project Description:

The Assateague Coastal Trust will work with the Maryland Department of Natural Resources, the University of Maryland, and others to restore wetlands and oyster habitat in Maryland's coastal bays. Project partners will train interested volunteers to become "oyster gardeners," who will subsequently create a sanctuary site near Ocean City where young oysters will be transplanted and their survival rates studied. University professors will oversee the workshops at which the volunteers are trained, and staff from the Trust will administer and monitor the project, the results of which will be published in the Trust's quarterly newsletter. Partial funding for this grant is being provided by the National Marine Fisheries Service Community-based Restoration Program.

Project Update:

The Assateague Coastal Trust (ACT), in partnership with the Maryland Coastal Bays Program (MCBP) and other government departments and universities, has created a 1-acre oyster bed in the Maryland Coastal Bays watershed. The bed was built by spreading 1,200 cubic yards of disease-free oyster shell at a site chosen by the Maryland Department of Natural Resources. The bed is to be populated by oysters that are currently growing in 35 floats manned by volunteer "oyster gardeners." After 9 months in the water, the growth rate of the oysters in the floats has been encouraging: oysters have grown from 3 mm to as much as 40 mm and will soon be ready for transplant. The project will then continue with more gardeners, a new generation of oyster spat, and the development of a new oyster bed. Financing has come from the National Fish and Wildlife Foundation, ACT, MCBP, and Clean Water Section 319 funds.

Project Name: Bartlett Brook Riparian Restoration

Five Star Grant: \$10,000 (FY 2000)

Grant to: Vermont Department of Environmental Conservation

Location: South Burlington, Vermont

Project Description:

The Bartlett Brook Riparian Restoration project is the first phase of a two-phase demonstration project to restore water quality and wildlife habitat in a highly urbanized stream in South Burlington. The Vermont Department of Environmental Conservation will work with the City of South Burlington, the Vermont Youth Conservation Corps, local high school students, and community volunteers to restore about 100 meters of the most eroded reach of the brook using innovative bioengineering techniques. Among the project's many benefits, restoration of the brook will benefit a small population of mottled sculpin, a rare fish species in Vermont.

Project Update:

At this time, construction has not yet taken place, but progress has been made toward that goal. The 100 meters of the most eroded reach of the stream will be restored using the natural channel design technique and will incorporate numerous bioengineered structures. The partnership has developed a brochure for commercial landowners in the watershed that addresses proper stormwater facility maintenance and hazardous materials practices such as cleanups of spills. The watershed has numerous automotive retail and service shops and the partnership thought public outreach was one way to obtain better source controls on this hot spot type of runoff. In exchange for agreeing to abide by several clean water principles, a retail establishment can have its name printed in the brochure along with a number on a map showing its location. A local school group did all the work and had excellent success in getting owners to sign up.

For more information EPA's Five-Star grant program, visit

<http://www.epa.gov/owow/wetlands/restore/5star>.

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Community-Based Restoration Partnerships

Pueblo of Santa Ana Restores the Rio Grande Riverbank

The Pueblo of Santa Ana reservation, located on the Rio Grande about 20 miles north of Albuquerque, New Mexico, began the Bosque Restoration Program in 1996 to restore native species along the Rio Grande Riverbank. The program involves the restoration of cottonwoods and willows along the 6-mile reach of the Rio Grande that runs through the Santa Ana reservation.

Over the past 50 years, federal agencies installed dams and levees in the river to control flooding. The flood control structures transformed the river from a wide shallow, river to a narrower and deeper one. The less frequent floods that have come to characterize the river make it difficult for native cottonwood and willow trees to flourish and have reduced the habitat for the now-endangered Southwestern willow flycatcher and Rio Grande silvery minnow.

Over the past 5 years the Pueblo has worked with the Army Corps of Engineers, Bureau of Indian Affairs, Bureau of Reclamation, Fish and Wildlife Service, and Environmental Protection Agency to restore the natural conditions of the river. The restoration efforts have slowed river velocity, prevented channel degradation, and promoted over-bank flooding. In addition, restoration workers have also restored a 200-acre section of riverbank with native species and recreated native wildlife habitat. Plans are under way to restore an additional 4 miles of riverbank on the reservation. For more information, contact Ben Ikenson, U.S. Fish and Wildlife Service, 500 Gold Ave. SW, Albuquerque, NM 87102. Phone: 505-248-6915. E-mail: ben_ikenson@fws.gov. Web site: <http://www.santaana.org/>.

St. Clair River Waterways for Wildlife Promotes Environmental Stewardship

The St. Clair River is a key component in the Great Lakes ecosystem, connecting Lake Huron and Lake St. Clair. The numerous wetlands, prairies, woodlands, and riparian and upland zones found in the area once supported a diverse community of plants and wildlife and served as a convergence point for hundreds of thousands of migratory waterfowl. Over the years the St. Clair River has become a heavily developed corridor where agricultural production, heavy and light industries, and residential development have dramatically reduced wildlife habitat. In fact, less than 5 percent of all natural riparian areas and 3 percent of native wetlands remain.

Supported by the Wildlife Habitat Council, a nonprofit group of corporations, conservation organizations, and individuals dedicated to protecting and enhancing wildlife habitat, the Waterways for Wildlife program, encourages the leadership of private sector companies to use their companies land for the conservation and protection of natural resources in the St. Clair River Basin. This program, initiated in 1995, provides private and public land managers, conservation groups, local schools, and communities with opportunities to participate in voluntary partnerships for the enhancement of wildlife habitat, water quality, and the region's overall natural values. Working with the Waterways for Wildlife project, John Farrell Elementary School in Emmett, Michigan has begun a schoolyard habitat project. In a meadow area on their school grounds, schoolchildren planted wildflower and native plant gardens with the help of funding through the Michigan Department of Natural Resources Natural Heritage Small Grants Program fund. The wildflower area is surrounded by fencing and wetlands, in which the school has placed bluebird houses. Algonac Elementary School in Algonac, Michigan has also developed its courtyard into an outdoor garden learning area. Through funding from the Natural Heritage Small Grant program, the school built a bog garden surrounding a sculpture of three egrets to teach students about the importance of wetland areas. Public utilities have also worked with the project to convert portions of their property into native habitat areas. To learn more, visit the web site <http://www.stclairwildlife.org> or contact Bryan Knowles, Director, Great Lakes Regional Office, 2336 Cheyanne Trail, Ewart, MI 49631. Phone: 231-734-3964. E-mail: bknowles@netonecom.net. *If you are part of an innovative community-based partnership that is working to restore river corridors or wetlands, we'd like to hear from you. Please send a short description of your partnership to restorationupdate@tetrattech-ffx.com.*

Achieving Restoration Results

Wetlands Return to the Missouri River

After years of emphasizing flood control over preservation of natural habitat and river flow, the Nebraska Game and Parks Commission is working to restore lost riverine habitat along the Missouri River. One of these projects is a 1,629-acre wetland inside a bend in the river near Nebraska City. City restoration workers dug a pilot channel to allow water to flow into the site and lowered dikes surrounding the site. With the help of a conveniently timed flood, the river helped restore the natural hydrology of the area. The Army Corps of Engineers and the Nebraska Game and Parks Commission assisted with the restoration work.

"The Schilling Wildlife Management Area [a second restoration project on the banks of the Missouri River] has been particularly successful and has become a favorite area for catfishing and waterfowl hunting," remarks Gerald Mestl, Nebraska Game and Parks Commission, Fisheries Division, Missouri River Program Manager. The threatened pallid sturgeon has also experienced population increases in the Schilling Wildlife Management Area. Other states bordering the Missouri River have also undertaken wetland restoration efforts under the Water Resources and Development Act of 1986. The act authorized a mitigation package of nearly 30,000 acres along the river. For more information, visit the web site <http://watercenter.unl.edu/wetlands/return.htm> [Link no longer available, October 2003].

Bennington, Vermont Makes the Best of a Bad Situation

In 1969 Bennington, Vermont turned a site initially created for sand and gravel excavation into a landfill. Residential, commercial, and industrial waste, some of it containing polychlorinated biphenyls (PCBs), was buried at the site. Between 1974 and 1986, groundwater monitoring revealed elevated PCB levels. In 1989 the landfill was designated a Superfund site. However, the landfill affected more than groundwater. Adjacent wetlands were also contaminated, and as part of the damage settlement, the town was required to restore nearby wetlands to compensate for the contaminated ones. Bennington officials negotiated to restore an uncontaminated forested wetland area east of the town. The area had once served as part of a water supply system, and the natural flows of the wetlands had been altered. To restore the natural hydrology of the wetland, the town agreed to remove numerous antiquated cisterns. The cost estimate for contractors to restore the site was around \$160,000. Instead, the town chose to do the work themselves using town employees and equipment. During the slow winter work season, workers restored the hydrology of the area, graded the banks of the pools, and created natural wetland habitat. In addition, town and community groups pitched in and created interpretive trails for visitors and an outdoor laboratory for local schools. A citizen's committee

and staff biologists provided technical assistance throughout the process. The total cost of the restoration was only \$40,000, saving the town more than \$100,000, as well as promoting awareness of wetlands and natural areas among the town citizens. For more information, visit <http://news.fws.gov/newspdf.html> or contact Linda Morse at the New England Field Office, U.S. Fish and Wildlife Service, 70 Commercial St., Ste 300, Concord, NH 03301-5087.

If you are part of an innovative community-based partnership that is working to restore river corridors or wetlands, we'd like to hear from you. Please send a short description of your partnership to restorationupdate@tetratex-ffx.com.

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Funding for Restoration Projects

New Listings:

Nonpoint Source Pollution Prevention Projects for New Mexico

New Mexico Environment Department is accepting proposals for on-the-ground projects that will address causes of water quality impairment from nonpoint source activities. Activities may include but are not limited to implementation of BMPs, reduction of erosion and sedimentation from roads and agricultural practices, riparian buffers, management of urban runoff, floodplain restoration, and streambank stabilization. All private, for profit, and nonprofit organizations or government jurisdictions are eligible to apply. The complete request for proposals can be viewed at <http://www.nmenv.state.nm.us/swqb/swqb.html>. Click on the Watershed Protection RFP Project Grants link.

Wildlife Habitats Incentives Program

The Wildlife Habitat Incentives Program is a voluntary program for people who want to develop and improve wildlife habitat on private lands. It provides both technical assistance and cost sharing to help establish and improve fish and wildlife habitat. Participants work with USDA's Natural Resources Conservation Service to prepare a wildlife habitat development plan in consultation with a local conservation district. The plan describes the landowner's goals for improving wildlife habitat, includes a list of practices and a schedule for installing them, and details the steps necessary to maintain the habitat for the life of the agreement. The cost share amount is usually less than \$10,000. For more information, contact Headquarters: U.S. Department of Agriculture, Natural Resources Conservation Service, P.O. Box 2890, Washington, DC 20013-2890. Phone: 202-720-3534. E-mail: leslie.deavers@usda.gov. Web site <http://www.nrcs.usda.gov/NRCSProg.html>

Listings with Upcoming Deadlines:

Multiple Grants Available from U.S. Fish and Wildlife Service, Western Washington Office

The U.S. Fish and Wildlife Service, Western Washington Office, Division of Watershed Protection and Restoration, is soliciting project proposals for funding in fiscal year 2002. Programs now accepting proposals include Washington State Ecosystems Conservation, Partners for Fish and Wildlife, Puget Sound Program, and Chehalis Fisheries Restoration Program. Total funding for these projects is approximately \$500,000. A letter of intent to apply is due to the Western Washington Office by September 14, 2001.

For more information and an application contact the Western Washington Office, 510 Desmond Drive, Suite 102, Lacey, WA 98503, Attention Pam Kosonen.

Turner Foundation Grants

The Turner Foundation, Inc., is soliciting new grant proposals for the protection of rivers, lakes, wetlands, aquifers, oceans, and other water systems from contamination, degradation, and other abuses. Priorities include promoting the use of water for environmental purposes, restoring and protecting fish and wildlife habitat, preventing pollution, and protecting wetlands. Past grants have been awarded for between \$10,000 and \$100,000. Applications are due by September 15, 2001. For more information, visit <http://www.turnerfoundation.org/index.asp>.

Chesapeake Bay Trust Pioneer Proposal Program

The Chesapeake Bay Trust (CBT) is accepting grant proposals to fund techniques and programs that develop innovative approaches to Chesapeake Bay protection and restoration. CBT may

fund up to \$10,000 for each successful pioneer proposal. Concept letters are due by September 21, 2001. To be eligible, programs must involve the Chesapeake Bay and its tributaries. For more details, visit the web site <http://www.chesapeakebaytrust.org/grantprograms.html>. Please send any news you have on funding mechanisms available to local community organizations to restorationupdate@tetrattech-ffx.com.

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News and Announcements

Maryland Governor Wants New Restrictions on Development Near Coastal Waters

Maryland Governor Parris Glendening is prepared for one of the most contentious environmental battles of his administration. The battle will likely be over the new legislation restricting development along Maryland's coastal bays that Glendening plans to introduce in the next General Assembly session. During his administration, Governor Glendening has become known for legislation limiting development and urban sprawl. Instead of viewing the development of wetland areas with million-dollar homes as progress, he sees it as a disaster.

As more people flock to the shore for vacations, Maryland's coastal bays face growing pressure from developers. The new legislation targets several coastal bays in Worchester County and would protect miles of coastal area and wildlife habitat. The regulations proposed by the Governor would be similar to the "critical areas" legislation developed in 1984 to protect the Chesapeake Bay and would subject some areas to more stringent restrictions than others. Landowners are expected to oppose the legislation because it would put strict limitations on what they could do with their land. For more information, visit the web site

<http://www.washingtonpost.com/wp-dyn/articles/A38514-2001Aug20.html>.

Critical Habitat for California Vernal Pool Species Will Be Proposed Under Lawsuit Settlement

Under a settlement approved by the U.S. District Court in Sacramento on July 23, 2001, the U.S. Fish and Wildlife Service will complete critical habitat designations for 15 endangered and threatened species in California that are dependent on vernal pool wetlands for their survival. Vernal pools are seasonal wetlands that fill with water during fall and winter rains. Before 1990 an estimated 75 percent of California's vernal pools were destroyed. If the pools are designated as critical habitat under the Endangered Species Act (areas essential for the conservation of a threatened or endangered species), they may require special management considerations. "This settlement is an important step toward protecting the remaining wild vernal pool habitat in California," commented Barbara Vlamis, Executive Director of Butte Environmental Council. For the complete press release, visit

<http://news.fws.gov/newsreleases/display.cfm?NewsID=BE3F2432-C871-4D83-8AC643FB2FD5C536>.

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Upcoming Conferences and Events:

NEW LISTINGS:

8th Annual Virginia Watershed Management Conference

September 26-28, 2001

Virginia Beach, Virginia

This conference is geared toward officials, developers, consultants, local government representative, soil and water conservation district directors, and members of nonprofit organizations. This conference will challenge those who attend to define and implement more innovative conservation solutions and will provide resources, case studies, and success stories about community engagement in watershed protection, storm water and urban issues, sustainable land use, environmental education, riparian restoration, low-impact development, and Total Maximum Daily Loads.

For more information, visit <http://www.dcr.state.va.us/watershed/index.htm> or call the Virginia Department of Conservation and Recreation at (757) 925-2468. Scholarships are available for citizens and representatives of nonprofit organizations.

Society for Wetland Scientists: NE Regional Research Conference

October 19, 2001

Worcester, Massachusetts

This conference will be useful for anyone involved in wetland ecology, management, restoration, policy or other topics related to wetlands. The 1-day conference will feature brief sessions on Wetland Wildlife; Wetland Restoration; Hydrology, Soils and Disturbance; Law and Policy; and Plant Ecology.

For more information, visit <http://www.sws.org/regional/newengland>.

Wetlands Conservation and Sustainability Workshop

September 13, 2001

Sioux Falls, South Dakota

The Sioux Falls chapter of the Izaak Walton League and the League's national office will host a workshop focusing wetland ecology, functions, values, and stewardship. Participants also learn about wetland regulations and policies and examine wetland plants, soils, hydrology, and wildlife in the field. Anyone who encounters wetlands in their work or free time, including volunteers, nonprofit organizations, developers, landowners, farmers, students, teachers, government agency personnel, consultants, and business professionals, should attend.

Each workshop participant will receive a copy of the League's Handbook for Wetlands Conservation and Sustainability, a 288-page resource on wetland ecology and monitoring. For more information, contact Roger Parham at (605) 332-6409.

PREVIOUS LISTINGS:

11th International Conference on Aquatic Invasive Species

October 1–4, 2001

Alexandria, Virginia

The U.S. Army Engineer Research and Development Center is the host of the 11th International Conference on Aquatic Invasive Species. This 4-day conference will include the review of accumulated scientific knowledge; presentation of the latest field research; introduction of new technological developments for prevention, monitoring, control, and mitigation; and discussion of policy, legislation, public education, and outreach initiatives related to aquatic invasive species.

For more information on the conference, visit the web site www.aquatic-invasive-species-conference.org or e-mail the conference administrator at profedge@renc.igs.net.

Fourth Annual Wetlands Regulatory Workshop

October 29–November 2, 2001

Atlantic City, New Jersey

The purpose of this workshop is to further investigate contemporary wetland regulatory issues that have been addressed in previous workshops. The workshop strives to increase dialogue and foster partnerships between federal, state, and local regulatory agencies, nongovernmental organizations, and the regulated community. Representatives from federal, state, and local governments, academia, nongovernmental organizations and the private sector are encouraged to attend. Contact Ralph Spagnolo, U.S. Environmental Protection Agency, Region 3, 1650 Arch Street, Philadelphia, PA 19103-2029 or spagnolo.ralph@epa.gov.

To post your restoration news and announcements, please send information to restorationupdate@tetrattech-ffx.com.

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Restoration-Related Web Sites

<http://www.cwp.org>

Center for Watershed Protection. Founded in 1992, the Center for Watershed Protection works with local, state, and federal governmental agencies, environmental consulting firms, watershed organizations, and the public to provide objective and scientifically sound information on effective techniques to protect and restore urban watersheds. This site serves as a technical resource for anyone working in watershed protection.

<http://www.terrene.org/wirsdata.htm> [Link no longer available, November 2003]

WIRS Database. The WIRS Database is an online resource center for information on lake and watershed restoration, protection, and management. The database includes bibliographic information from technical reports, conference proceedings, government documents, journal articles, books, and Clean Lakes Program reports. WIRS may be searched for specific information by keyword. The articles and reports are generally available through public sources such as the National Technical Information Service, U.S. Government repository libraries, and interlibrary loan. The database is a good resource for technical information on restoration-related topics.

<http://www.nmenv.state.nm.us/swqb/swqb.html>

Watershed Protection at the New Mexico Environment Department. The goal of New Mexico's Watershed Protection Division is to develop and implement a program that will reduce human-induced pollutants from nonpoint sources entering surface and ground waters. The site provides information on wetland permits as well as funding opportunities for wetland restoration. This site is beneficial to people wishing to gain information about undertaking wetland restoration work in New Mexico.

<http://www.conservation.state.mo.us/landown/wetland/>

Missouri Department of Conservation Wetlands Page. This site provides descriptions of plants and animals often present in Missouri wetlands, as well as information on the restoration and management of both large and small wetlands. This site would be useful to anyone wishing to learn more about wetlands or looking for easy-to-understand methods of restoring wetlands.

http://www.michigan.gov/deg/0,1607,7-135-3313_3687---,00.html

Michigan Department of Environmental Quality Wetland Page. This site contains information on wetland identification, regulation, permits, restoration, and education, as well as links to other wetland information. It contains a broad range of information from basic descriptions of wetlands to how to obtain a permit and other technical topics.

<http://www.epa.gov/owow/watershed/wacademy>

The Watershed Academy. EPA offers several watershed-related online training classes through the Watershed Academy. Classes on wetland function and values as well as streambank restoration are available. This site is useful to anyone wishing to take classes to learn more about wetland restoration.

<http://www.aswm.org>

The Association of State Wetland Managers. This nonprofit organization is dedicated to the protection and restoration of America's wetlands. Its goal is to help public and private wetland decision-makers use scientific information and techniques in wetland delineation, assessment, mapping, planning, regulation, acquisition, restoration, and other management projects. This site provides a wide variety of up-to-date wetland news, as well as conference information and a registry of wetland professionals.

<http://www.nccoast.org>

The North Carolina Coastal Federation. The federation is a nonprofit organization that seeks to protect and restore North Carolina's coastal environment, culture, and economy through citizen involvement in the management of coastal resources. The Coastal Federation supports volunteer supported wetland restoration efforts and projects to raise public awareness of the threats to coastal habitats. This site would be useful to people who want to get involved in restoration activities.

<http://www.harborestuary.org>

The New York/New Jersey Harbor Estuary Program. This program is a multiyear effort to develop and implement a plan to protect, conserve, and restore the estuary. Several workgroups allow participants to focus on a specific aspect of estuary protection. The habitat restoration workgroup has recently released its 2001 Status Report, listing numerous priority sites to be acquired and restored. Most of the sites are wetlands. This site provides a good example of a large community-based restoration effort.

<http://www.nrcs.usda.gov/feature/backyard/>

Backyard Conservation. This campaign is a project of the National Association of Conservation Districts, the Wildlife Habitat Council, and USDA's Natural Resources Conservation Service. It shows homeowners how the conservation practices used on agricultural land across the country to conserve and improve natural resources can be adapted for use on the land around a home.

The web site provides tips sheets on how to create a backyard pond or wetland, composting, mulching, nutrient management, pest management, terracing, tree planting, water conservation, and wildlife habitat.

Let us know about your restoration-related web site. Please send relevant URLs to restorationupdate@tetrattech-ffx.com.

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Information Resources

Finding the Resources for Restoration

Available from the Northwest Water Law and Policy Project

This video is designed to assist watershed councils and similar community groups in finding funding for restoration of local streams and watersheds. It is ideal for those seeking information on how to finance local river restoration programs and projects. The cost of \$10 includes shipping and handling.

To order the video, please contact the Northwest Water Law and Policy Project at (503)768-6761, visit the web site at www.lclark.edu/dept/water, or e-mail water@lclark.edu.

MDEQ Wetland Identification Manual:

A Technical Manual for Identifying Wetlands in Michigan

Available from the Michigan Department of Environmental Quality

This manual provides background information and a field method for identifying and evaluating site characteristics necessary for concluding whether a particular area of land is a wetland as defined in Part 303, Wetlands Protection, of the Natural Resources and Environmental Protection Act. The manual is designed as a technical operational manual for Michigan Department of Environmental Quality staff and for use by other wetland professionals.

The manual can be downloaded from the web site http://www.michigan.gov/deq/0,1607,7-135-3313_3687-10333--,00.html.

Stream Corridor Restoration:

Principles, Processes, and Practices

Available from the Federal Interagency Stream Restoration Working Group

This lengthy document encourages locally led public involvement in restoration planning and implementation. It provides information on a full range of possible restoration solutions, including no action or passive approaches, partial intervention for assisted recovery, and substantial intervention for managed recovery.

The restoration manual can be downloaded from the web site

http://www.usda.gov/stream_restoration/newgra.html or ordered from the National Technical Information Service at (703) 605-6000 or (800) 553-NTIS.

If you'd like to publicize the availability of relevant information resources, please send information to restorationupdate@tetrattech-ffx.com.